ALCOHOL CONSUMPTION AND CRIME INCIDENCE IN THE PHILIPPINES

By

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Presented by

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Organized by the Philippine Statistical System
Spearheaded by the Philippine Statistics Authority

2 BILLION
WHO

iSONIC
oppo
FIIBU

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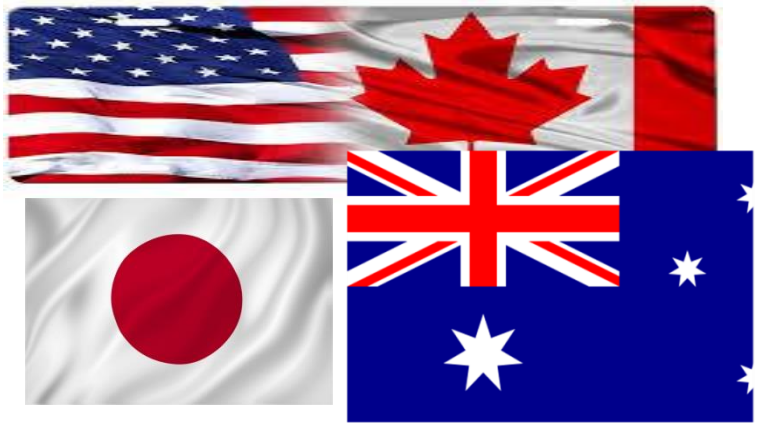
TAILS



3.3 million people globally in 2012

2015

2014

46%

HOUSEHOLD CHARACTERISTICS

Conceptual Framework

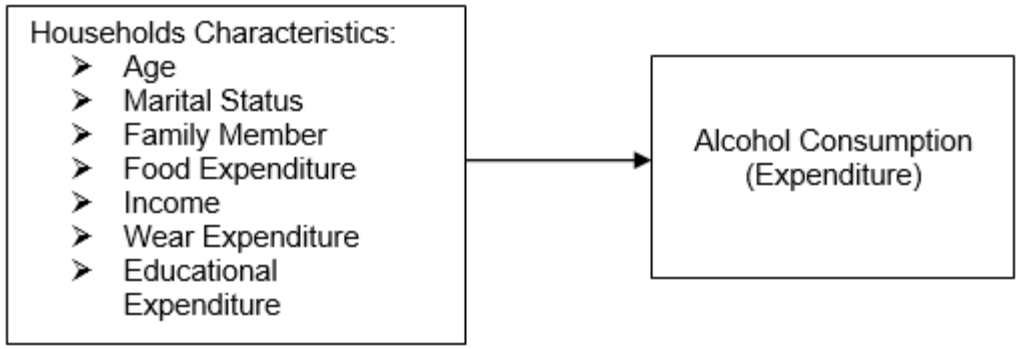


Figure 1.Characteristics of the households that determines alcohol consumption.

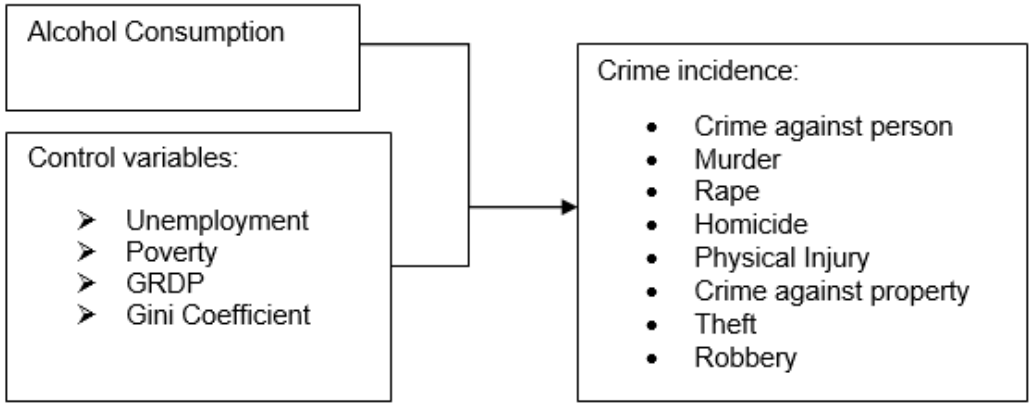


Figure 2. The effect of alcohol consumption to crime incidence.

Empirical Model

$$AC_{it} = \beta_0 + \beta_1 FEX_{it} + \beta_2 WEX_{it} + \beta_3 TR_{it} + \beta_4 EDEX_{it} + \beta_5 + INC + \beta_6 FMEM_{it} + \beta_7 A_{it} + \beta_8 MS_{it} + \varepsilon_{it} \quad (1)$$

where:

AC = Alcohol Consumption (in pesos) in region *i* at year *t*;
FEX = Food Expenditure (in peso) region *i* at year *t*;
WEX = Wear Expenditure (in peso) region *i* at year *t*;
TR = Transportation Cost (in peso) region *i* at year *t*;
EDEX = Education Expenditure (in peso) region *i* at year *t*;
INC = Income (in peso) region *i* at year *t*;
FMEM = Family Member in region *i* at year *t*;
A = Age of household in region *i* at year *t*;
MS = { 1, if the *ith* household is married; 0, otherwise
ε = error term

$$CR_{IT} = \beta_0 + \beta_1 AC_{it} + \beta_2 UE_{it} + \beta_3 P_{it} + \beta_4 GRDP_{it} + \beta_5 GC_{it} + \varepsilon_{it} \quad (2)$$

where:

CR = Crime incidence in region *i* at year *t*
AC_{it} = Alcohol Consumption in peso in region *i* at year *t*
UE_{it} = Unemployment rate in region *i* at year *t*
P_{it} = Poverty threshold in region *i* at year *t*
$GRDP_{it}$= Gross Regional Domestic Product per capita in region *i* at year *t*
GC_{it} =Gini Coefficient per capita in region *i* at year *t*
ε = error term

Estimated using Panel Data Analysis

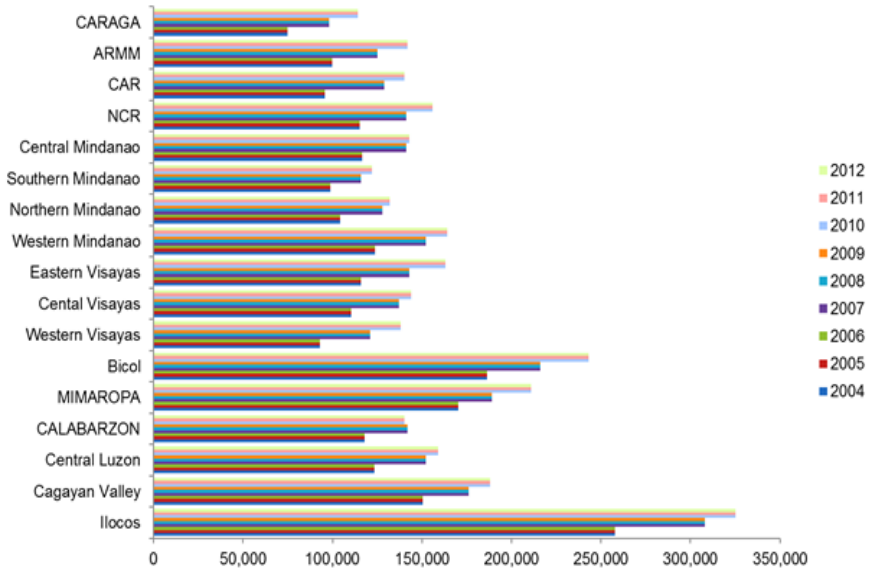


Figure 3. Alcohol consumption expenditure by region in the Philippines, 2004-2012.
Source: Philippine Statistics Authority (PSA)

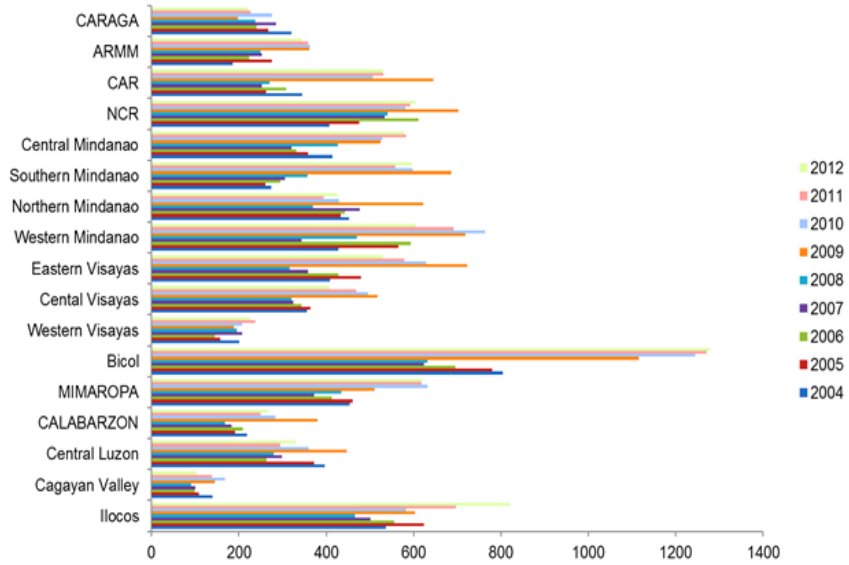


Figure 4. Regional murder incidence in the Philippines, 2004-2012.
Source: Philippine Statistics Authority

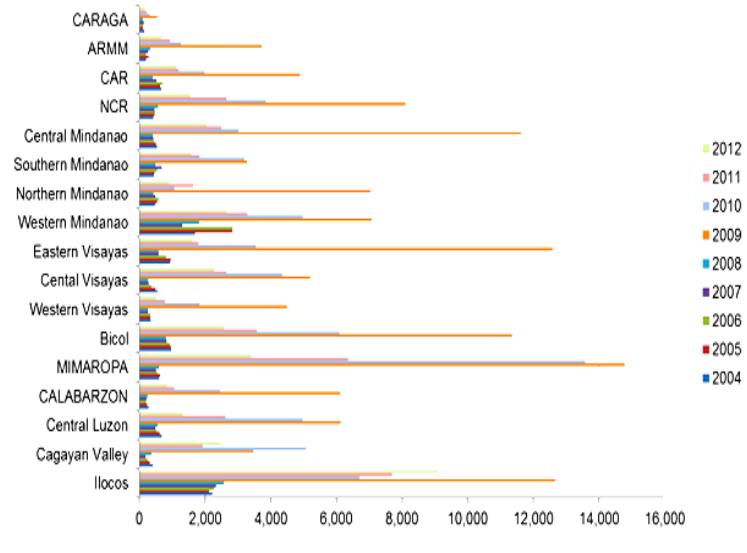


Figure 5. Regional physical injury in the Philippines, 2004-2012.
Source: Philippine Statistics Authority

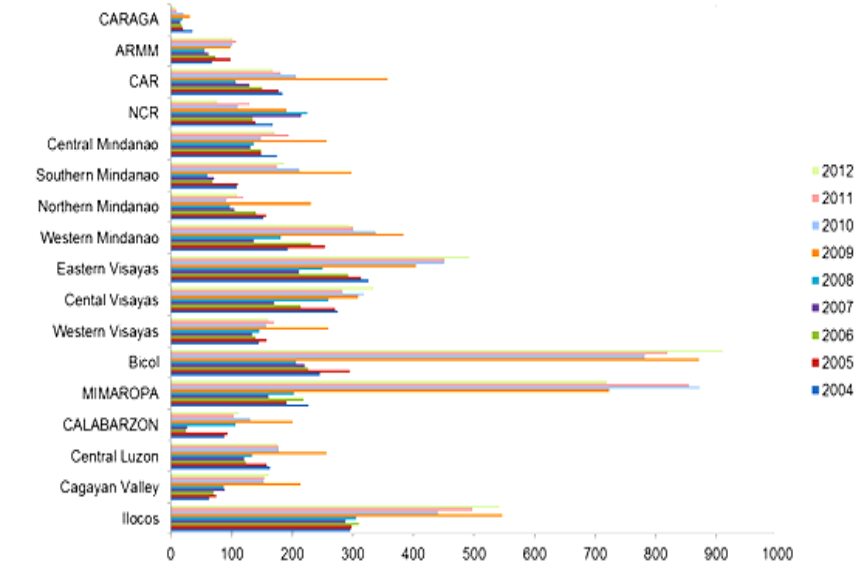


Figure 6. Regional rape incidence in the Philippines, 2004-2012.
Source: Philippine Statistics Authority (PSA)

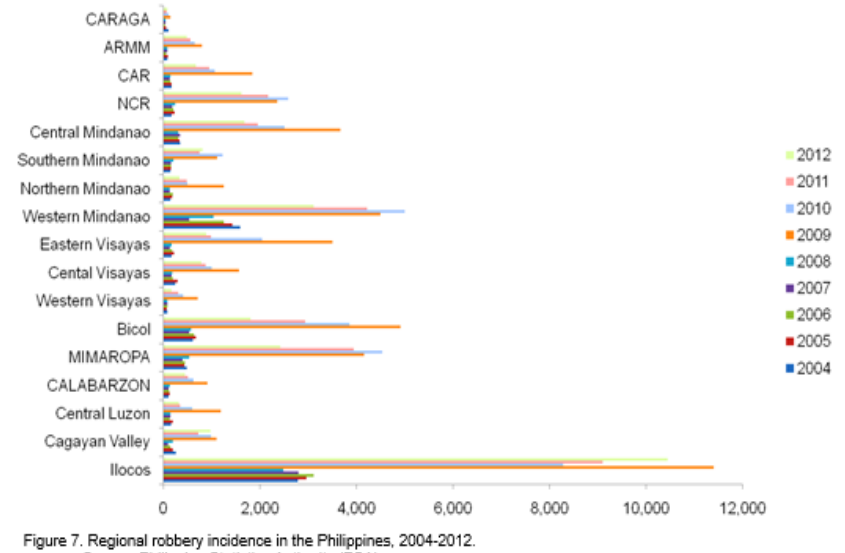


Figure 7. Regional robbery incidence in the Philippines, 2004-2012.
Source: Philippine Statistics Authority (PSA)

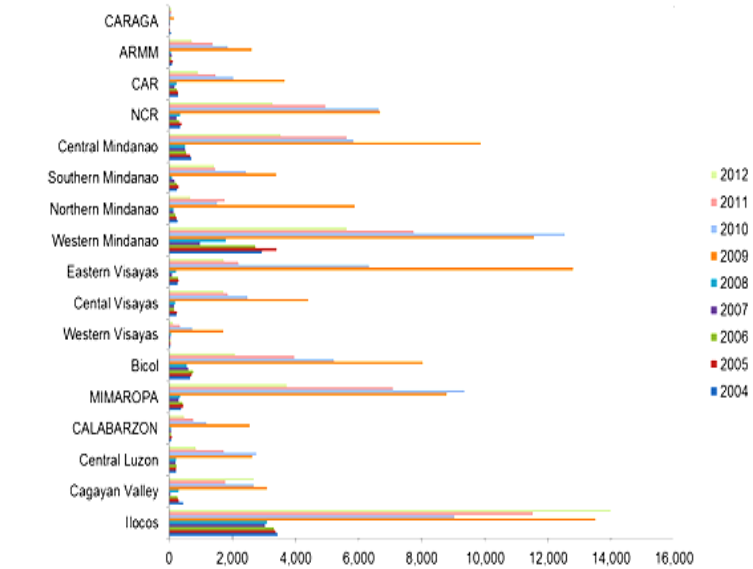


Figure 8. Regional theft incidence in the Philippines, 2004-2012.
Source: Philippine Statistics Authority (PSA)

Results

Table 1. Parameter estimates of the relationship of alcohol consumption and household characteristics.

Variables	Estimated Coefficient	Standard Error	P-value
Food Expenditure	0.7968*	0.0430	0.000
Wear Expenditure	0.1462*	0.0142	0.000
Education Expenditure	-0.0375*	0.0050	0.000
Income	-0.3379*	0.0276	0.000
Family Member	-0.0023^{ns}	0.0086	0.790
Age of household head	0.0038*	0.0012	0.001
Marital Status	-0.1146^{ns}	0.2185	0.600
constant	-1.9258	0.4324	0.000

*Significant at 5% level ns not significant

Table 2. Parameter estimates on the effect of alcohol consumption and control variables to crime in the Philippines, 2004-2012.

Crime Incidents	Constant	AC	UE	P	GRDP	GC
Homicide	36.8071	-0.00004	5.0312*	-0.0025	0.0009*	201.584
	(99.4372)	(0.00006)	(2.6679)	(0.0033)	(0.0001)	(122.569)
Murder	-53.0625	-0.0051*	3.5479	0.0170*	0.0011*	362.31**
	(166.558)	(0.0001)	(2.7282)	(0.0062)	(0.0002)	(214.898)
Physical Injury	-3433.624	0.0026*	33.2555	0.1651	0.0193*	1789.69*
	(-2000.759)	(-0.0013)	(33.2932)	(0.1083)	(0.0027)	(816.200)
Rape	-1451.69	0.0014	11.7257	0.0774	0.0035	509.186
	(1794.271)	(0.0013)	(10.3916)	(0.0913)	(0.0023)	(636.3024)
Theft	-5319.362	-0.0030	18.3970	0.2055**	0.0297*	5245.95*
	(2743.112)	(0.0022)	(31.0963)	(0.1220)	(0.0051)	(2615.902)
Robbery	-1638.264	-0.0003	2.8265	0.0931*	0.0267*	-1262.3
	(890.1597)	(0.0008)	(19.0715)	(0.04577)	(0.0036)	(778.1526)

( ) standard error in parenthesis *5% significant level **10% significant level

Summary and Conclusions

- Regional alcohol consumption in the Philippines has been increasing in trend from year 2004 to 2012. Ilocos region has the highest alcohol consumed and CARAGA was the lowest.
- Crime incidence increased in year 2009 due to a new computational procedure made by PNP where they included minor cases such as Barangay blotters and filed cases. It was also observed that rape, homicide and murder incidence was high in Bicol region due to alcohol consumption, and theft and robbery was high in Ilocos region.
- In relation between crime and alcohol, it was found that only murder and physical injury has a significant relationship to alcohol consumption.

POLICY

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